

REMARKS/ARGUMENTS

Claims 1-20 and 34-37 are pending. By this Amendment, claims 1, 11, and 34-37 are amended. Support for the amendments can be found at least in Figs. 8-13 and paragraphs 0051-52 of the application as published, and throughout the specification, drawings, and claims as originally filed. No new matter has been added.

The rejections in the September 3, 2008 Office Action have been fully addressed in the Amendment filed December 3, 2008. This Supplemental Amendment is submitted to present claim amendments discussed at the personal interview conducted on December 22, 2008. Deficiencies of the cited art other than those presented herein have been previously presented, and are not repeated here for clarity and brevity. Thus, the absence of a prior argument from the present Amendment is not intended to signify acquiescence to any argument or interpretation put forth in any prior Office Action.

Interview Summary

Applicants thank the Examiner for the courtesy extended to Applicants' undersigned representative and Dr. Stephen Forrest during the personal interview conducted December 22, 2008. A summary as suggested by M.P.E.P. §713.04 is provided below:

- (A) No exhibits or demonstrations were shown.
- (B) Claim 1 was discussed.
- (C) "Micropatterning of small molecular weight organic semiconductor thin films using organic vapor phase deposition" (Shtein), "Micron-scale patterning of organic thin films using organic vapor phase deposition" (Shtein II), and U.S. Patent No. 4,788,082 to Schmitt were discussed.
- (D) Amendments consistent with those presented herein were discussed.
- (E) The Examiner argued that Shtein and Shtein II describe how to extend OVPD to perform OVJP, and that the term "patterned film" may be properly interpreted to include the layers described by Schmitt. As described in further detail below, Applicants argued that Shtein and Shtein II do not disclose a dynamic pressure as recited in the claims. Applicants also argued

that Shtein and Shtein II do not describe physical OVJP systems and methods, and that Schmitt does not disclose patterned films.

- (F) No other pertinent matters were discussed.
- (E) The interview was not conducted via email.

35 U.S.C. §102 Rejections

Independent claim 1 recites, *inter alia*, “a region between the nozzle and the substrate surrounding the carrier gas has a **dynamic pressure** of at least 1 Torr **greater than the background pressure.**” The Office Action asserts that Shtein and Shtein II disclose various background pressures, and alleges that these pressures inherently result in the claimed dynamic pressure. Applicants respectfully disagree.

To establish inherency, the record must show that the alleged inherent feature is necessarily present in the cited art; the fact that a certain characteristic may be present is insufficient. *See* M.P.E.P. §2112, Part IV. (citing *In re Rijckaert*, 9 F.3d 1531, 1534, 2 USPQ2d 1955, 1957 (Fed. Cir. 1993), *re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981)). Shtein and Shtein II describe organic vapor phase deposition techniques, in which a material passes through a mask to deposit onto a substrate. There is no suggestion in Shtein or Shtein II that the passage of material through the mask can create a pressure difference between the mask and the substrate. In fact, as discussed during the interview, the diffusive OVPD techniques described in Shtein do not result in a pressure difference between the mask and the substrate. Thus, a dynamic pressure greater than the background pressure does not necessarily result from the cited techniques, and the references do not support the inherency analysis presented by the Office Action. For at least these reasons, claim 1 and all claims dependent therefrom are allowable over Shtein and Shtein II.

35 U.S.C. §103 Rejections

Shtein and Shtein II

The §103 rejection presented in the Office Action fails to remedy the defects of Shtein and Shtein II described above. Specifically, neither reference discloses or suggests ejecting a carrier gas from a nozzle at a flow velocity that is at least 10% of the thermal velocity of the

carrier gas, wherein a region between the nozzle and the substrate surrounding the carrier gas has a dynamic pressure of at least 1 Torr greater than the background pressure. Withdrawal of the rejections is respectfully requested.

Shtein and Schmitt

The Office Action rejects all the pending claims as obvious over Schmitt in view of Shtein and various combinations of other references. As discussed during the interview, claims 1 and 11 recite “forming a plurality of separate films of the organic material on the substrate.” Schmitt describes deposition of a single, blanket film, such as to create a protective layer. There is no suggestion of depositing a plurality of separate films, or even that such deposition is possible in Schmitt’s system. For at least this reason, the combination of Schmitt and Shtein fails to render claims 1 and 11 obvious.

Further, as previously described, the primary combination of Schmitt and Shtein is improper, since Schmitt is directed to processes for creating blanket thin films on a substrate, such as to protect the substrate, whereas the cited portion of Shtein describes a masked technique which intentionally creates a non-uniform film having regions with substantially higher deposition thickness. Such a coating would be completely unsuitable for use as the protective coating described by Schmitt, and the combination proposed by the Office Action would render Schmitt’s system and method unsuitable for their intended purpose.

The other cited references fail to remedy the defects of the Schmitt/Shtein combination described above. Specifically, whether taken alone or in combination, none of the references describe or suggest ejecting a carrier gas carrying an organic material from a nozzle at a flow velocity that is at least 10% of the thermal velocity of the carrier gas, such that the organic material introduced with the carrier gas into the nozzle is deposited onto a substrate, separated from the nozzle, forming a plurality of separate films of the organic material on the substrate. Further, none of the cited references disclose or suggest a region between the nozzle and the substrate surrounding the carrier gas having a dynamic pressure of at least 1 Torr greater than the background pressure, and wherein at least one of the nozzle diameter, the nozzle length, and nozzle-to-substrate separation is about equal to the gas mean free path length. Withdrawal of the rejections and reconsideration is respectfully requested.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance and an action to that end is respectfully requested.

If the Examiner believes a telephone conference prior to the in-person interview scheduled for December 22, 2008 would expedite prosecution of this application, please telephone the undersigned at 202-481-9900.

The Commissioner is authorized to charge any fees due or credit any overpayment to the deposit account of Townsend and Townsend and Crew LLP, Deposit Account No. 20-1430.

Respectfully submitted,

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